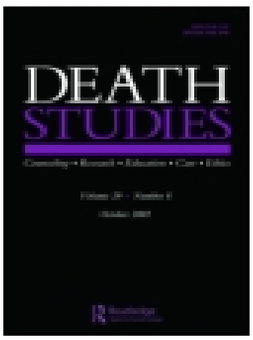

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Pre- and postloss features of adolescent suicide bereavement: A systematic review

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ABSTRACT

Despite increasing clinical and research interest in suicide bereavement the impact of suicide on adolescents is still poorly understood. This systematic review aims to disentangle pre- and postloss features that affect response to grief in this age group. The literature was analyzed after a systematic search and hand-check of retrieved articles. The impact of suicide is affected by (a) preloss features related to personal/family history of mental health, family life, suicidal behavior, and type and emotional closeness of relationship; and (b) postloss issues such as quality of remaining relationships. Future research and bereavement support should consider these broader contexts.

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With an estimated 804,000 suicide deaths in 2012, suicide is a major global public health issue. The World Health Organization has identified support for people bereaved through suicide (i.e., the survivors) as an important strategy in suicide prevention (World Health Organization, 2014). From an historical perspective, based on personal accounts of survivors (e.g., Bolton, 1998; Buksbazen, 1976; Fine, 1999) and small-scale mostly uncontrolled studies (for review, see, e.g., Farberow, 1993), suicide bereavement originally was perceived as more difficult and distinct from bereavement after other types of death. However, research studies in recent decades (which have included control groups and larger samples) have found more similarities than differences among groups of people bereaved by different types of death, in terms of grief process, morbidity, duration, and outcome (Andriessen, 2009; Clark, 2001; De Leo, Cimitan, Dyregrov, Grad, & Andriessen, 2013; Jordan & McIntosh, 2011; Pitman, Osborn, King, & Erlangsen, 2014; Sveen & Walby, 2008). Irrespective of the similarities, the narratives of survivors portray grief themes such as guilt, shame, social stigma, search for meaning, and the suicide risk of survivors, as more characteristic though not unique for suicide bereavement (Dunne & Dunne-Maxim, 2009; Jordan, 2001).

Few studies have focused on the aftermath of suicide, or suicide bereavement, in young people (Cerel & Aldrich, 2011). A recent analysis of the postvention articles published in the four core suicidology journals over the last 40 years found only five articles on characteristics of suicide bereavement, and seven articles on support programs that specifically focused on adolescents or students (Andriessen, 2014). There are however a number of important reasons why suicide bereavement in adolescents necessitates greater research attention. Not only may a large number of adolescents be affected by suicide, concerns have been raised regarding the transmission of suicide, and psychosocial morbidity among bereaved adolescents (Cerel & Aldrich, 2011).

Similar to the varying estimated numbers of people bereaved through suicide in the total population (Berman, 2011; Cerel, Maple, Aldrich, & van de Venne, 2013), the estimates for young people also vary considerably. According to Pfeffer, Jiang, Kakuma, Hwang, and Metsch et al. (2002), in the U.S. children are bereaved by the suicide of a relative in one third of all suicides. In a survey of a representative sample ($N = 5{,}918$) of U.S. adolescents, Cerel and Roberts (2005) found that 1.2% had been exposed to the suicide of a close relative in the prior year, whereas 3.2% had been exposed to the suicide of a peer in that time (Cerel, Roberts, & Nilsen, 2005).

Exposure to fatal and nonfatal suicidal behavior in the family or peer environment can be a risk factor for adolescent suicidal behavior (Brent, Bridge, Johnson, & Connolly, 1996; Crosby & Sacks, 2002; Qin, Agerbo, & Mortensen, 2002). Several mechanisms may play a role in the transmission, e.g., environmental through social learning, modelling, or imitation (De Leo &

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Heller, 2008; Insel & Gould, 2008), and/or biological through a vulnerability for impulsivity, aggression, and suicidal feelings (Andriessen & Videtic-Paska, 2015; Brent & Melhem, 2008; Hawton, Saunders, & O'Connor, 2012).

Over 50 years ago, Hilgard, Newman, and Fisk (1960), while investigating the impact of the death of a parent during childhood among adults, found that features of relationships before and after the death affected the development of the child after the loss, either as risk or protective factors, irrespective of the type of death of the parent (e.g., suicide or illness). However, to date, the pre- and postloss features of adolescents bereaved by suicide have not been addressed systematically.

The limited number of review studies on adolescent suicide bereavement have focused on specific aspects (morbidity or suicidality) of selected kinship relationships, mainly parental suicide (Geulayov, Gunnell, Holmen, & Metcalfe, 2012; Hung & Rabin, 2009; Kuramoto, Brent, & Wilcox, 2009; Ratnarajah & Schofield, 2007) and, to a lesser extent, peer suicidal behavior (Crepeau-Hobson & Leech, 2014).

To the best of our knowledge, no comprehensive systematic review has been published of the peer-reviewed literature concerning adolescents bereaved by suicide (including all decedent–survivor relationships). This review is the first to systematically review the literature across kinship relationships with the deceased, either family or peer. The review will specifically examine the impact of the loss as expressed in grief experiences, mental health, risk behavior, and suicidal behavior among adolescents exposed to suicide, and disentangles pre- and postloss features that affect the grief level and outcomes.

Method

The study was conducted following the PRISMA guidelines (http://www.prisma-statement.org/) for systematic reviews (Liberati et al., 2009). The literature was searched via PubMed, PsycINFO, and Web of Science with the search words: adolescents OR youth/bereavement OR grief/suicide. There were no restrictions for language or date of publication. The search was undertaken at the end of September 2014 and produced 52 positive leads. Only original studies were included, comprising quantitative, qualitative, or mixed-methods approaches. Review articles were excluded. The included studies needed to focus on the impact of suicide on adolescents. Impact could be related to loss by suicide, or exposure to suicide in the family or peer environment. Studies on exposure to suicide via the media were excluded, as were studies on support programs. Studies had to report on suicide as the exposure criterion. Studies reporting combined data on fatal and nonfatal suicidal behavior, or attempted suicide but not suicide, were excluded. Adolescents were defined as young people aged 12 to 18 years old (high school age range). Studies that addressed this age group were included, whereas studies focusing solely on younger children or adults were excluded. The abstract and full text of each article was examined against the inclusion/exclusion criteria. Consequently, 36 articles were excluded: one duplicate, one review paper, 14 studies not on adolescents, four not on suicide bereavement, and 16 not on adolescents and not on suicide bereavement. The references of the remaining 16 articles (marked with * in the list of references and Tables 1 and 2), as well as the references of key review papers, and the tables of content of the core suicidology journals (*Suicide and Life-Threatening Behavior, Crisis, Archives of Suicide Research*, and *Suicidology Online*) were hand-checked to identify additional references. This additional search identified 42 studies, leading to a final total of 58 articles. It is noteworthy that, in addition to the electronic search words used, the 42 studies had a wide variety of 40+ keywords related to suicidal behavior (e.g., *attempt, suicidal ideation*), psychiatric problems (e.g., *depression, posttraumatic stress disorder*), kinship (e.g., *child, family, parent*), and a number of study-specific keywords not used by another study in this review (e.g., *cortisol, narrative, stigma*). Though a full review of those keywords is beyond the scope of this study, it seems that keywords across studies are not used in a consistent way. The full list of keywords is available from the authors upon request.

Results

The search strategy identified 58 studies, published between 1976 and 2014. More than half of the studies ($n = 33$, 57%) were U.S.-based, with 21 studies (marked with ° in Tables 1 and 2 and relevant links between studies were included in the tables) from the same research group. Regarding suicide exposure, 22 studies focused on suicide in the peer environment (e.g., suicide of friends, acquaintances, and school mates (Table 1). A total of 32 articles studied the impact of suicide in the family environment, predominantly parental suicide and sibling suicide (Table 2). Four studies reporting on both peer and family suicide were included in the category with the best fit, i.e., impact of peer suicide (Table 1). Gender distribution of participants was not always reported, and varied considerably between studies: The proportion of males varied between 0% and 75%. Studies reported findings with regard to grief experience, mental health, risk behavior, and suicidal behavior among exposed adolescents.

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Table 1. Summary of articles[1] on the impact of peer suicide on adolescents.

Author (year)	Study location	Study design	Informants (study group)	Study group	*n*	Control	*n*	Major findings
Abbott and Zakriski (2014)	US	Cross-sectional	Mean 21.2 ($SD = .44$) at assessment 7 to 2 years after death Male: 23.5%	Adolescents (freshmen in high school) exposed to peer suicide cluster	85	Matched nonexposed controls	67	-Grief was highest in peers closest to suicides, and closeness was linked to weaker belief in preventability ($p < .01$) -Social support seemed to have beneficial effects, but also related to stigmatizing attitudes and prolonged grief
Bartik et al. (2013a)	AU	Qualitative Structured interviews	Mean 19.3 ($SD = 2.58$) Ages 16–24 years old at time of suicide Assessed 1 to 8 years after suicide Male: 20%	Suicide of a friend (or family member)	10	—	—	Thematic analysis revealed four themes: -meaning making: the struggle to understand the death -feeling guilty and the complexity of feelings -risky coping behaviours: e.g., alcohol consumption -relating to friends and impact on relationships
Bartik et al. (2013b)	AU	Cross-sectional	Mean 19.3 ($SD = 2.58$) Ages 16–24 years old at time of suicide Assessed 1 to 8 years after suicide Male: 20%	Suicide of a friend (or family member)	10	Normative sample	—	-Increased scores for depression and stress ($p < .05$) with depression scores associated with increased trait-anxiety -Reduced coping in regards to task-oriented coping, avoidance and distraction ($p < .05$) -Increased scores on criteria of prolonged grief (full criteria were not met)
Bjarnason and Thorlindson (1994)	IS	Cross-sectional	Ages 14–16 years old Male: 50%	Adolescents who attempted suicide	456	Adolescents without attempted suicide	6,562	-Adolescents who ever attempted suicide had more a friend died by suicide, or attempted suicide, or someone close who had disclosed suicidal ideation ($p < .0001$)
Blum et al. (1992)	US	Cross-sectional	Ages approx. 12–18 years old Male: 49.3%	7th–12th grade school pupils, US Indian-Alaska native adolescents	13,454 (total sample)	Subsample of pupils who attempted suicide	Number not clear	-Those having done a suicide attempt in past year, and having current suicidal thoughts, were twice as likely as low risk students to have experienced suicide of a friend or in the family ($p < .00001$)
Brent et al. (1992) * °	US	Case-control	Mean 17.7 ($SD = 2.6$) 6 months after suicide Male: 55%	Suicide of an adolescent friend	58	Acquaintances (friends of friends)	58	-Increased new psychopathology among exposed vs nonexposed ($p = .02$) -Depression correlated with grief severity -Risk factors: closeness of relationship, personal and familial psychiatric history and life stressors -No difference in new suicidal behaviour
Brent et al. (1993a) °	US	Case-control (extended sample of Brent et al. 1992)	Mean 18.4 ($SD = 2.0$) 6 months after suicide Male: 54.1%	Friends and acquaintances of an adolescent suicide	146	Matched unexposed controls	146	-Increased risk of new onset suicidal ideation, depression and PTSD ($p = .03$), but not of suicide attempts -Friends had higher rates of onset depression than acquaintances ($p = .001$)
Brent et al. (1993b) * °	US	Case-control	Mean 18.4 ($SD = 2.0$) 6 months after suicide Male: 54.1%	Suicide of an adolescent friend	78	Acquaintances (friends of friends)	68	-New onset depression was related to closeness of relationship, and visual exposure to suicide -Personal and family history of depression were related to depression after exposure
Brent et al. (1993c) * °	US	Case-control	Mean 15.8 ($SD = 1.1$) Gender: not reported	Witnesses of a school mate suicide	28	Matched unexposed controls	28	-New onset anxiety disorder and PTSD correlated with proximity to the suicide, and closeness of relationship ($p < .05$) -Risk factors: personal and familial psychiatric history and of life events
Brent et al. (1994) * °	US	Longitudinal (case-control follow-up, Brent et al. 1993a)	Mean 19.8 ($SD = 2.0$) At follow-up, 12–18 months after initial inter-view 6 months after the loss Male: 54.2%	Friends and acquaintances of an adolescent suicide	121	Matched unexposed controls	138	-Higher levels of incident depression ($p = .01$) and anxiety disorders($p = .008$) in the exposed group, and highest in those with personal or family history of depression prior to the loss -Mean duration of new onset depression was 9 months -No difference regarding suicide attempts between the two groups at follow-up
Brent et al. (1995)°	US	Cross-sectional (Analysis of sample $n = 146$, Brent et al. 1993a)	Mean 18.2 ($SD = 2.0$) Assessed 6 months after suicide Male: 57.2%	Adolescents bereaved by peer suicide, experiencing PTSD	8	Adolescents bereaved by peer suicide, not experiencing PTSD	138	-Peers with PTSD had more a history of substance abuse ($p = .04$) and suicide attempts ($p < .0001$), but no differences in family history of psychiatric disorders -PTSD correlated with closeness of relationship with the deceased ($p = .02$), exposure to the suicide or the body, previous and current depression, suicidal ideation, and family discord

(*Continued*)

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Table 1. Continued

Author (year)	Study location	Study design	Informants (study group)	Study group	*n*	Control	*n*	Major findings
Brent et al. (1996b) °	US	Longitudinal (case-control follow-up, Brent et al. 1993a; 1994; 1995)	Mean 21.2 ($SD = 1.8$) at assessment 3 years after first assessment 7 months after death Male: 51.5%	Friends and acquaintances of an adolescent suicide	166	Matched unexposed controls	175	-No difference in suicide attempts between two groups at follow-up despite new onset psychopathology -New onset depression in the first 6 months ($p < .0001$), and increased risk of PTSD at 6 months ($p = .0001$) and at 3 years ($p = .04$) -Having known the suicide plan predicted new onset depression and PTSD at 3 years -No suicides in either group
Bridge et al. (2003)°	US	Case-control	Mean 18.3 ($SD = 2.1$) at time of death, assessed 6 months after death Gender reported as similar to Brent et al. 1993a	Suicide of an adolescent friend	129	Matched nonbereaved controls	145	-Incidence of depression was highest within the first month after loss (31.8% vs 1.4%, RR = 23.0), then converged with the nonbereaved group -Those with family history of depression, and feelings of accountability, had highest risk ($p = .02$) (RR = 9.6) -Risk factors were family history of psychiatric problems, interpersonal conflicts with friends, and loss in the family
Cerel et al. (2005)	US	Cohort, cross-sectional	Ages 11–19 years old, national representative sample of adolescents Male: 48%	Exposure to friend suicide ($n = 167$) Exposure to friend suicide attempt ($n = 888$)	167	Nonexposed sample	4,797	-Exposed adolescents had higher scores of past year risk behaviors: smoking (48%, OR 2.5), marijuana use (26%, OR 2.7), binge drinking (59%, OR 1.7), fighting (47%, OR 2.2), inflicted injuries to others (37%, OR 3.1), suicidal ideation (38.5%, OR 5.4) and attempts (19%, OR 9.4) -Friends of suicide deaths had higher scores than friends of attempted suicides
Feigelman and Gorman (2008)	US	Longitudinal, cohort study	Age range not reported, probably 11–19 years old (cf. Cerel et al., 2005) Gender: not reported	Suicide of a friend in the past 12 months	615	Nonbereaved adolescents	20,125	-Short-term increase of health risk behaviours, incl. depression, suicidal ideation and attempts ($p = .002$), during the first year after bereavement, but not sustained over a longer period (6–7 years) of time
Gutierrez et al. (1996)	US	Cross-sectional	Ages 11 years 11 months to 17 years 10 months Male 59%	Suicide of a family member, friend or acquaintance	34 (total sample)	Non exposed sample	Not clear, max. half of total sample	-Experience of suicide was associated with attitudes regarding weaker attraction to life ($p \leq .01$), and stronger attraction to death ($p \leq .05$) -Experience of nonsuicidal death was associated with weaker repulsion by death
Hazell and Lewin (1993)	AU	Cross-sectional	Pupils in school years 8–11, assessed 8 months after suicide Male SC: 44% Male SA + SC: 42.9%	Friends of suicide completers (SC) ($n = 68$), Friends of suicide attempters (SA) ($n = 92$), Friends of SC + SA ($n = 84$)	68 + 92 + 84	Nonbereaved matched controls	554	-The SA+SC group had the highest levels of previous suicidal ideation and behavior, higher levels of exposure to suicides, and current levels of (problem) emotions and risk taking behavior, whereas scores of the SC group and the SA group were not different from each other ($p < .001$)
Ho et al. (2000)	HK	Cross-sectional	Mean 16.6 ($SD = 1.18$), assessed 16 months after death Male: 46.6% (SC)	Peers of SC ($n = 329$) Peers of SA ($n = 574$)	329	Nonexposed controls	1,017	-SA peers (21%) and SC peers (15%) reported more previous suicide attempts than controls (4.8%, $p < .001$) -Increased prevalence of psychiatric problems in SC peers (22%) and SA peers (26%) compared with controls ($p < .001$) -Closeness of relationship increased risk of suicidal communication and plans
Hoffmann et al. (2010)	SA	Qualitative	Ages 17–22 years old, assessed 1 to 5 years after death Male: 0%	Late-adolescents bereaved by suicide	5	—	—	Grief themes: guilt, self-blame, blaming others or God, anger, loss or restriction of 'self', depression, suboptimal behavioral coping patterns (incl. substance abuse), changes in relationships dynamics, and suicidality
Johansson et al. (2006)	SE	Qualitative	Ages 13–19 years old Male: 75%	Adolescent suicides in clusters	6	All suicides in years 1981 to 2000	88	-Two clusters of 3geographically and in time related suicides -Clustered suicide cases knew each other -Similarities between cases in each cluster

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Melhem et al. (2004a)* °	US	Longitudinal, case-control sample, cross-sectional analysis (Study group of Brent et al. 1993a)	Mean 18.3 ($SD = 2.2$), ages 11–23 at time of death Male: 55%	Suicide of an adolescent friend	78	Acquaintances (friends of friends)	68	-Traumatic grief occurred independent of depression or PTSD -Incidence of depression and PTSD (both in 1/4rd of bereaved adolescents) was highest 1 to 6 months after the loss -Traumatic grief at 6 months predicted onset of depression and PTSD over time during three year follow-up ($p < .01$)
Melhem et al. (2004b)°	US	Longitudinal, case-control sample, cross-sectional analysis (Study group of Brent et al. 1993a)	Mean 18.3 ($SD = 2.2$), ages 11–23 at time of death Male: 55%	Suicide of an adolescent friend	78	Acquaintances (friends of friends)	68	-Complicated grief (CG) was associated with feelings that they could have prevented the death ($p = .000$), interpersonal conflict ($p = .006$), history of depression ($p = .01$), and family history of anxiety disorder ($p = .03$) -CG tended to correlate with closeness of relationship ($p = .057$) -CG, depression and PTSD share risk factors
Pirelli and Jeglic (2009)	US	Cross-sectional	Mean 20 ($SD = 3.97$) Male: 25.3%	Experience with different types of death in different kinships	396 (total sample)	Experience with suicide in different kinship relationships	Subsample, numbers not provided	-Number of suicide deaths experienced was positively, and number of acute deaths, was negatively associated with having attempted suicide ($p < .01$) -Suicide of a friend was significant, but not in family or acquaintances
Smith and Crawford (1986)	US	Cross-sectional	Mean 16.5, ages 15–19 years old Males: 34.4%	Suicidal behaviour of friends	313 (total sample)	—	—	-Suicide (39.4%, $p < .001$), and attempted suicide in friends (42.4%, $p < .005$) was associated with having attempted suicide, contrary to family (attempted) suicide
Swanson and Colman (2013)	CA	Longitudinal, cohort study, cross-sectional analysis	Three age groups: ages 12–13, 14–15, 16–17 years old Male: 50.2%, 50.3%, 49%	Suicide of a schoolmate	8,766 7,802 5,496	Unexposed sample per age group	7.2%, 19% and 24.1% of each total age group sample	-Having knowledge of a suicide (7.2%, 19.1%, 24.1%), and having known the deceased personally (9.7%, 11.8%, 20.1%) increased with age -Exposure was associated with increased risk of suicide ideation and attempts, e.g., 8.4% in 16–17 yrs old vs 3.2% in controls -After two years, attempted suicide risk persisted in 12–13 years old (OR 3.07), and 14–15 years old (OR 2.72)
Watkins and Gutierrez (2003)	US	Case-control	Mean 16.3 ($SD = 1.47$), ages 14–18 years old Male: 37%	Friends and acquaintances of adolescent suicide	14 + 13	Unexposed matched controls	27	-No differences between exposed and nonexposed adolescents regarding suicide risk or depression symptoms

Note: AU = Australia; CA = Canada; HK = Hong Kong; IS = Iceland; SA = South Africa; SE = Sweden; US = United States.
[1]The sixteen articles identified through the systematic search in the databases are marked with *. Twenty-one studies from the same research group are marked with °.

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Table 2. Summary of articles on the impact of suicide in the family on adolescents.

Author (year)	Study location	Study design	Informants (study group)	Study group	*n*	Control	*n*	Major findings
Agerbo et al. (2002)	DK	Population-based nested case-control	Ages 10–21 years old, died by suicide Male: 77.8%	Suicide of parents and siblings	496	Matched living controls from population register	24,800	Suicide risk was related to paternal suicide (OR 2.30), maternal suicide (OR 4.75), familial psychiatric history, and early loss of mother (OR 2.06) Also own psychiatric illness and poor schooling was linked to death by suicide
Brent et al. (1993d) * °	US	Case-control	Mean 17.4 ($SD = 2.8$) 6 months after suicide Male: 48%	Sibling suicide	25	Matched unexposed controls	25	Higher new onset depression among exposed siblings ($p = .04$) and mothers ($p = .03$) compared with controls Family history of psychiatric disorders ($p = .01$) was a risk factor, but exposure (seeing the scene of death, knowing the victim's plan) was not
Brent et al. (1996a) * °	US	Longitudinal (case-control follow-up, Brent et al. 1993d)	Mean 20.2 ($SD = 3.1$) at follow-up 3 years after suicide Male: 50%	Sibling suicide	20	Matched unexposed controls	22	No increased risk over time of depression, PTSD, or anxiety disorders between the two groups -More grieve symptoms among bereaved siblings compared with friends ($p = .045$) Long-term effects in siblings differ from friends (see Brent et al., 1994)
Brent et al. (2009) * °	US	Longitudinal controlled follow-up (cohort, Melhem et al., 2008)	Ages 7–25 Assessment 9 to 21 months after the death Male: 50.9% (suicide informants)	Parental death through suicide, accident, or sudden natural death	176	Matched nonbereaved controls	168	Higher risk of depression in the bereaved by accidents and suicide, and higher substance abuse in the suicide bereaved, compared with the nonbereaved (and sudden natural deaths) Preloss history of depression increased depression risk at 9 months and at 2 years Bipolar disorder in proband and loss of mother increased risk for depression
Brent et al. (2012) * °	US	Longitudinal controlled follow-up (cohort, Melhem et al., 2008; Brent et al. 2009)	Mean 18.4 ($SD = 3.1$) at assessment 5 years after the loss Male: 51.6%	Parental death through suicide, accident, or sudden natural death	126	Matched nonbereaved controls	116	Parentally bereaved youth compared with controls had lower competence regarding work performance ($p = .001$), career planning ($p = .001$), peer attachment ($p < .001$), and future educational aspirations ($p < .001$) Parental and personal psychiatric history had a negative impact on parent and child functioning and developmental outcomes Age at time of the death, and gender and cause of death of the deceased parent did not affect the outcomes
Cerel et al. (1999) *	US	Longitudinal, cross-sectional	Mean 11.7 ($SD = 3.4$), ages 5–17 years old at time of death. Assessed 1, 6, 13, and 25 months after death Male: 50%	Parental suicide	26	Children bereaved by parental death, other causes than suicide or homicide	332	Suicide bereaved children felt more anxiety, anger and shame, and less relief and acceptance during the first year ($p < .05$) No differences in symptoms of PTSD, suicidality, and depression (the latter in 1/3rd of children), apart from short-lived (6 months postloss) higher symptoms among suicide bereaved children Increased behavioral problems in suicide bereaved youth ($p < .05$) No differences regarding psycho-social and school functioning, but the control group had more physician visits and missed school days
Cerel et al. (2000)*	US	Longitudinal, cross-sectional	Mean 11.7 ($SD = 3.4$), ages 5–17 years old at time of death. Assessed 1, 6, 13, and 25 months after death Male: 50%	Parental suicide	26	Children bereaved by parental death, other causes than suicide or homicide	332	Suicide bereaved families had higher levels of disruption before death ($p < .001$) (divorce, life events,…): children might have had less contact with the suicidal parent ($p < .005$) No difference between the two groups regarding postloss parental psychopathology, quality of relationship between surviving parents and children, and experience of social support

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Cerel & Roberts (2005)	US	Cohort, cross-sectional	Ages 11–19 years old, national representative sample of adolescents Gender not reported, Similar to Cerel et al. (2005)	Exposure to family member suicide in past year ($n = 68$), or to family member suicide attempt ($n = 222$)	68	Nonexposed sample	5,566	Exposed adolescents had higher scores for smoking (41%, OR 2.0), marijuana use (30%, OR 2.9), binge drinking (63%, OR 2.5), fighting (47.6%, OR 1.9), inflicted injuries to others (36.7%, OR 3.1), suicidal ideation (27.3%, OR 2.5), suicide attempt (17%, OR 6.5), emotional distress (15.5%, β 3.9), and lower school grades (β −.28) Family suicide attempt was associated with family disconnection, whereas family suicide death was not
Cheng et al. (2014)	TW	Case-control	Ages 15–19 years old Male: 61.4%	Parental suicide	500	Matched living controls	15,000 (30 per case)	Adolescent suicide risk was increased with paternal (OR 5.38) and maternal suicide (OR 6.59). Suicide risk in male adolescents was associated with paternal suicide (OR 8.23), but not maternal Suicide risk in female adolescents was associated with maternal suicide (OR 9.71), but not paternal
Christiansen et al. (2011)	DK	Population-based nested case-control	Mean male: 18.2, mean female: 17.3, ages 10+ Male: 27.1%	Parental suicide	3,465	Matched nonsuicide attempters	69,300 (20 per case)	Parental suicide, parental suicide attempt, psychiatric illness and low income were independent risk factors for offspring suicide attempt Dose-response effect: attempted suicide risk increased with number of risk factors
Dietz et al. (2013)°	US	Longitudinal, case-control	Ages 10–29 years old, assessed up to 5 years after death Male: 45.6%	Youth bereaved by parental death through suicide, accident, or sudden natural death	90 (all traumatic deaths)	Nonbereaved offspring	91	Bereaved offspring of sudden natural death showed significant increase in cortisol relative to baseline ($p = .04$) Difference was not explained by psychiatric disorders in offspring or increased care after the loss, but hypothetically through the role of chronic (vs acute) stress related to parental suicide
Dyregrov and Dyregrov (2005)	NO	Cross-sectional, and qualitative	Mean 17.7, ages 15–20 years old, assessed 6 to 23 months after death Male: 54.5%	Sibling suicide	11	Adult siblings bereaved by suicide, and parents bereaved by child suicide	59 + 128	Feelings of stigmatization, blame, guilt, rejection, and anger 1/3 of siblings were aware of suicidal ideation or attempts Thoughts that parents were more affected, yet felt overlooked themselves Change in level of maturity, values, friendships Shortage of professional support: 40% of children received (short-term) assistance, 65% of parents expressed need for more help for bereaved siblings
Hamdan et al. (2012)* °	US	Longitudinal population-based study (cohort: Melhem et al., 2008)	Mean 13.6 ($SD = 3.7$), ages 7–25 at time of death Male: 50.8%	Parental death through suicide, accident, or sudden natural death	240	Nonbereaved matched controls	183	Contrary to previous (short-term) report (Muniz-Cohen et al., 2010), over three year time the bereaved group had higher levels of health-risk behaviors ($p < .04$), which were related to levels of bereavement experience, aggression, and overall functioning Type of death did not differ level of health risk behavior
Hamdan et al. (2013)* °	US	Longitudinal population-based study (cohort: Melhem et al., 2008)	Mean 13.6 ($SD = 3.7$), ages 7–25 at time of death Male: 50.8%	Parental death through suicide, accident, or sudden natural death	235	Nonbereaved matched controls	178	At 5 year follow-up, risk factors for onset of alcohol or substance abuse were age 13 years and older at time of death ($p < .001$), male gender ($p = .007$), history of disruptive behavior ($p = .001$), onset of disruptive behavior postloss ($p = .005$), greater functional impairment ($p < .001$) -Bereavement experiences, and type of death did not increase risk
Jakobsen & Christiansen (2011)*	DK	Population-based nested case-control	Mean 17.46 ($SD = 2.37$), ages 10–23 years old Male: 21.3%	Parental death through suicide, accident, homicide, or natural death	3,465	Matched adolescent nonsuicide attempters	69,300 (20 per case)	Both paternal and maternal death increased risk of attempted suicide among bereaved adolescents ($p < .0001$) Loss of two parents doubled risk (RR 1.71 vs RR 4.66) No differences regarding time since loss (up to 5 years), and type of death

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Table 2. Continued

Author (year)	Study location	Study design	Informants (study group)	Study group	*n*	Control	*n*	Major findings
Kuramoto et al. (2010)	SE	Population-based retrospective cohort study	Ages 0–17 years old Male: 48%	Maternal suicide Paternal suicide	5,600 + 17,847	Offspring of accident decedents	19,345	Offspring of maternal suicides had increased risk of suicide-attempt hospitalization, compared with controls ($p < .01$) Offspring of paternal suicides had increased hospitalization risk for depression ($p < .05$) and anxiety ($p < .01$) Risk for suicide attempt hospitalization was greater in offspring of maternal vs paternal suicide, compared with control offspring ($p = .05$)
Kuramoto et al. (2013)	SE	Population-based retrospective cohort study	Ages 0–24 years old Male: 51.4%	Parental suicide	26,096	Offspring of unintentional injury decedents	32,395	Offspring of suicide decedents had earlier onset of hospitalization for suicide attempts compared with controls Adolescent offspring experiencing parental suicide were at greatest risk one to two years after the loss Siblings who lost a parent by suicide at young age had increased long-term risk for hospitalization for attempted suicide compared with siblings who lost a parent at young adulthood ($p < .001$)
Lu et al. (2011)	TW	Population-based case-control study	Ages 2–19 at time of parental death (ages at suicide: 16–19 years old) Male: 75%	Adolescents died by suicide, parentally bereaved by suicide	12	Adolescents died by suicide, nonparentally bereaved by suicide	668	10 of the 12 adolescent-parent suicide dyads used the same suicide methods, compared to 4 in 12 of nonparentally bereaved adolescents ($p = .014$) Level of knowledge of, or exposure to parental suicide is not known
Melhem et al. (2007)* °	US	Longitudinal, population-based study, cross-sectional analysis	Mean 13.3 ($SD = 3.1$), ages 7–18 years old at time of death. Assessed within 1 year (mean 8 months) after loss. Male: 52.7%	Parental death through suicide, accident, or sudden natural death	129	—	—	Complicated grief (CG) was associated with symptoms of depression, anxiety, PTSD, hopelessness, and suicidal ideation ($p < .001$) Feelings that others are accountable for the death ($p < .05$), and that others blame the bereaved child ($p < .01$), were associated with higher CG scores No differences in CG scores regarding socio-demographic features, cause of death, exposure to the death
Melhem et al. (2008)*°	US	Population-based, case-control	Mean 13.6 ($SD = 3.7$) Assessed: median 9 months after loss. Male: 52% (suicide informants $n = 34$)	Parental death through suicide, accident, or sudden natural death	211	Nonbereaved matched controls	183	Parents who died by suicide had higher rates of any psychiatric disorder ($p < .001$) Parental accidental death was more related with alcohol/substance abuse and personality disorder Bereaved adolescents (any type of death) had increased risk for onset depression (OR 3.0), anxiety, PTSD, and suicidal ideation, within 9 months of follow-up New onset depression: 20% vs 6%, and PTSD: 8.6% vs 0% ($p < .001$)
Melhem et al. (2011)°	US	Longitudinal controlled follow-up (cohort, Melhem et al., 2008; Brent et al. 2009)	Mean 12.4 ($SD = 2.8$), ages 7–18 years old, assessed up to 3 years after death Male: 54.4%	Parental death through suicide	57	Parental death through unintentional injury ($n = 47$), or sudden natural causes ($n = 78$)	125	Three grief trajectories were found: a low grief group (58.8% of the sample), an initial high-grief group steadily declining over time (30.8%), and a high grief group continuing over time (10.4%) Personal history of depression and functional impairment were related to prolonged grief Remaining parent complicated grief (OR 1.2, $p = .049$), feeling that others were accountable for the death (OR 7.4, $p = .003$), and life events since death (OR 1.2, $p = .03$) were related with onset depression Type of death was not significant

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Mittendorfer-Rutz et al. (2008)	SE	Population-based nested case-control	Mean 19.1 ($SD = 3.6$), ages 10–31 years old Male: 33%	Parental death through suicide. Young suicide attempters	14,440	Matched controls, nonsuicide attempters (1/10)	144,400 (10 per case)	Maternal (OR 1.8) and paternal (OR 1.9) suicide increased risk of hospitalization for suicide attempt Almost half (47%) of suicide attempts in the study group could be attributed to familial psychopathology (13%), family suicide attempt (7%), suicide (1%), and own psychopathology (25%)
Muniz-Cohen et al. (2010)°	US	Longitudinal controlled follow-up (cohort, Melhem et al. 2008)	Mean 12.69 ($SD = 3.03$), ages 7–25 years old, assessed 2 to 19 months after the loss Male: 53.8%	Parental death through suicide ($n = 56$), accident ($n = 47$), or sudden natural death ($n = 83$)	56	Nonbereaved matched controls	167	No increased health risk behaviors (e.g., wearing seatbelt, carrying a weapon, being involved in fighting, cigarette smoking, binge drinking, and substance abuse) in the bereaved sample compared with controls 9 months postloss Type of parental death not significant -Follow-up by Hamdan et al. (2012)
Niederkroten-thaler et al. (2012)	SE	Population-based case-control	Mean: 22.3 ($SD = 3.7$) Suicides, male: 72.4% Attempted suicides, mean: 21,1 ($SD = 4.4$), males: 35%	Parental suicide and Parental attempted suicide	1,407 and 17,159	Matched living controls	Up to 200,000 (≤10 controls per case)	Parental suicide increased risk of suicide (OR 3.46) and suicide attempt (OR 2.61) Parental somatic disability pension increased suicide risk (OR 1.46) and attempted suicide risk (OR 1.68) Parental inpatient mental care increased suicide risk (OR 2.64) and attempted suicide risk (OR 2.95) Parental death in general had a smaller increased risk Increasing risk of suicide and attempted suicide in offspring with decreasing age at exposure (≤10 years old)
Qin et al. (2002)	DK	Population-based nested case-control	Mean 29.4 ($SD = 6.8$), ages 9–45 years old, died by suicide Male: 75.5%	Suicide of parents and siblings	4,264	Matched living controls from population register (1/20)	80,238 (15 to 20 controls per case)	Suicide risk was associated with suicide and psychiatric admissions in mother, father, and siblings Family history of suicide (OR 2.58) and family history of psychopathology (OR 1.31) were independent risk factors Family history of suicide increased suicide risk (OR 2.37, $p < .05$) irrespective of psychiatric problems
Ratnarajah & Schofield (2008)	AU	Qualitative	Ages 18 – +80 years old, assessed 5 to 70 years after death Male: 10%	Parental suicide	10	—	—	Identified themes in narratives included: preloss: abandonment, separation, family violence, alcoholism postloss: importance of relationship with surviving parent, family breakdown, and long-term impact on own relationships and suicidality
Roy (1983)	US	Cross-sectional	Patients below the age of 11 years Male: 45.7%	Parental suicide	16	Patients more than 20 years old	47	Statistically ($p < .05$) more bereaved young people attempted suicide (75%) compared with the +20 years old (46.8%)
Sethi and Bhargava (2003)	IN	Case-control	Mean 12.20 ($SD = 3.6$), Ages 6–16 years old, assessed 6 to 24 months after the death Male: 63%	Suicide of a family member	24	Nonbereaved matched controls	26	Increased rates of depression in male and female bereaved (54% and 44% vs 7% and 0% in nonbereaved), PTSD (13% and 33% vs 0% in nonbereaved), as well as panic disorder and conduct disorder Increased social adjustment problems: problems with school, spare time, peers, and siblings (all $p < .001$)
Shepherd & Barraclough (1976)	UK	Longitudinal, cross-sectional	Ages 2–17 years old, assessed 5 to 7 years after death via interview with parent Male: 39%	Parental suicide	36	Nonbereaved controls (parentally matched)	61	Major changes in living circumstances (in 34 of 36 children), physical and mental health, e.g., anxiety, and referrals for treatments ($p < .02$), and delinquency problems in almost half of the bereaved Risk factors: preloss marital separations ($p = .005$) and police problems ($p = .005$), and +2 school changes after loss ($p = .05$) Separation from suicide parent before death was associated with lack or reaction afterwards ($p = .05$)

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Table 2. Continued

Author (year)	Study location	Study design	Informants (study group)	Study group	*n*	Control	*n*	Major findings
Silven Hagstrom (2013)	NO	Qualitative	Ages 15–18 years old, assessed at 19 to 27 years old, 8 to 10 years after death Male: 0%	Parental suicide	4	—	—	Feelings of stigmatization, social uneasiness, and shame Life-changing experience Meaning making to understand the suicide Need to talk about it Positioning in social circle (active vs passive), support-seeking vs isolation
Tsuchiya et al. (2005)	DK	Population-based nested case-control	Mean 24.4 ($SD = 5.4$), ages 10–38 years old Male: 40.1%	Parental suicide in patients with in bipolar disorder	947	Matched healthy controls	47,350 (50 controls per case)	Paternal (OR 2.82), maternal (OR 6.69), and sibling (OR 5.26) suicide were related with increased risk for bipolar disorder, vs no increased risk with nonsuicide death Highest risks were found after mother suicide, and at young age Maternal suicide before the age of 10 had a seven-fold increased risk of developing bipolar disorder (IRR 7.30, $p = .002$) Maternal suicide at 10–19 and 20+ years old had risks: IRR 3.06 and IRR 2.78 Paternal suicide before the age of 10 was associated with increased risk (IRR 2.20), but not in other age groups No increased risk after sibling suicide
Wilcox et al. (2010)	SE	Longitudinal, population-based cohort study	Ages 0–25 years old Male: 52%	Parental death through suicide ($n = 44{,}397$), accidents ($n = 41{,}467$), other causes ($n = 417{,}365$)	44,397	Offspring of alive parents	3,807,867	Offspring of suicides had a two-fold risk (IRR 1.9, $p < .001$) of suicide vs controls Other causes of death did not increase risk Parental death during childhood (0–12 years old) or adolescence (12–17 yrs old) increased suicide risk (IRR 3.0, $p < .05$), contrary to young adulthood (18–25 yrs) Parental death increased risk (IRR range 1.3–1.9) for suicide attempts and psychiatric hospitalization, with higher risks after suicide death, and slightly higher in the young age group ($p = .04$) Parental death in all age groups was associated with increased risk of violent crime (IRR range 1.2–1.6)

Note: AU = Australia; DK = Denmark; IN = India; NO = Norway; SE = Sweden; TW = Taiwan; UK = United Kingdom; US = United States.

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Grief was expressed in thoughts and feelings and affected behavior and relationships (Abbott & Zakriski, 2014; Bartik, Maple, Edwards, & Kiernan, 2013a; Cerel, Fristad, Weller, & Weller, 1999; Dyregrov & Dyregrov, 2005; Hoffmann, Myburgh, & Poggenpoel, 2010; Ratnarajah & Schofield, 2008; Silvén Hagström, 2013). Adolescents reported a variety of feelings, including guilt, blaming (others and self), shame, anger, rejection, and perceived stigma; and adolescents engaged in risky coping behaviors such as increased alcohol consumption (Bartik et al., 2013a; Hoffmann et al., 2010). The experience of a suicide changed their perspective on relationships, life (Bartik et al., 2013a; Ratnarajah & Schofield, 2008; Silvén Hagström, 2013), and their level of maturity (Dyregrov & Dyregrov, 2005). Because of a lack of control groups it is not possible to determine whether these grief themes are unique or similar to other types of adolescent bereavement. The young survivors expressed a need to make meaning of the suicide, and to be able to talk about their experience (Bartik et al., 2013a; Dyregrov & Dyregrov, 2005). Their positioning in their social circle oscillated between active and passive, between help-seeking and isolation (Silvén Hagström, 2013).

Regarding mental health, there is evidence of increased new onset psychiatric problems (e.g., depression, anxiety, PTSD, and substance abuse) shortly after bereavement and irrespective of kinship relationship with the deceased (Bartik, Maple, Edwards, & Kiernan, 2013b; Brent et al., 1992, 1993a, 1993b, 1993c, 1995; Bridge, Day, Richardson, Birmaher, & Brent, 2003; Cerel et al., 1999, 2000; Ho, Leung, Hung, Lee, & Tang, 2000; Melhem et al., 2004b; Sethi & Bhargava, 2003). In addition, long-term mental health risks in peer (Brent, Moritz, Bridge, Perper, & Canobbio, 1996b; Brent et al., 1994; Melhem et al., 2004a) and parentally bereaved adolescents were reported (Brent, Melhem, Donohoe, & Walker, 2009; Brent, Melhem, Masten, Porta, & Payne, 2012; Cerel et al., 2000; Hamdan, Melhem, Porta, Song, & Brent, 2013; Melhem, Moritz, Walker, Shear, & Brent, 2007; Melhem, Walker, Moritz, & Brent, 2008; Melhem, Porta, Shamseddeen, Payne, & Brent, 2011), as opposed to sibling-bereaved adolescents (Brent, Moritz, Bridge, Perper, & Canobbio, 1996a, 1993d), though few studies have investigated sibling suicide bereavement (Dyregrov & Dyregrov, 2005).

There were mixed findings regarding at-risk behaviors including smoking, marijuana use, binge drinking, fighting, and inflicting serious injuries to others, among suicide bereaved adolescents on a short-term basis (Cerel & Roberts, 2005; Cerel et al., 2005; Feigelman & Gorman, 2008; Hazell & Lewin, 1993; Muñiz-Cohen, Melhem, & Brent, 2010). In contrast, a long-term increased risk of at-risk behaviors after parental death, irrespective of type of death has been reported (Hamdan et al., 2012; Shepherd & Barraclough, 1976; Wilcox et al. (2010). Increased social adjustment problems (e.g., difficulties with school, spare time, peers, and siblings; Sethi & Bhargava, 2003) and more internalizing behavior (Cerel et al., 1999) have been found in suicide-bereaved children and adolescents, though no differences in overall psychosocial and school functioning as rated by teachers (Cerel et al., 1999).

Studies that have reported on suicidal behavior in peer suicide-exposed adolescents have presented mixed findings, with some mostly cross-sectional studies (Bjarnason & Thorlindsson, 1994; Blum, Harmon, Harris, Bergeisen, & Resnick, 1992; Ho et al., 2000; Pirelli & Jeglic, 2009; Smith & Crawford, 1986) reporting increased risks, but other mostly controlled and longitudinal studies not (Brent et al., 1992). However, there is robust evidence from large population-based (Agerbo, Nordentoft, & Mortensen, 2002; Niederkrotenthaler, Floderus, Alexanderson, Rasmussen, & Mittendorfer-Rutz, 2012; Qin et al., 2002; Wilcox et al., 2010) and case-control studies (Cheng et al., 2014) of increased suicide risk in adolescents related to aggregation of suicide in families, specifically parental suicide. Odds ratios analyses indicate a two-fold (Qin et al., 2002; Wilcox et al., 2010) to three-fold (Niederkrotenthaler et al., 2012) risk of offspring suicide, independent of family history of psychopathology. Maternal suicide might have a stronger impact than paternal suicide (Agerbo et al., 2002; Cheng et al., 2014). Cheng et al. (2014) also found a gender-decedent effect, and a small-scale case-control study found evidence of transmission of suicide method in adolescent–parent suicide dyads (Lu, Chang, Lin, & Li, 2011). In addition to increased suicide risk, exposure to parental suicide is related to a two-fold risk of attempted suicide (Cerel & Roberts, 2005; Niederkrotenthaler et al., 2012; Mittendorfer-Rutz, Rasmussen, & Wasserman, 2008).

Several studies have found an age effect with impact of suicide being stronger when experienced at younger age (e.g., before ages 10 or 12), with regard to offspring suicide (Agerbo et al., 2002; Niederkrotenthaler et al., 2012; Wilcox et al., 2010) and attempted suicide, and early onset as well as long-term risk of attempted suicide hospitalization (Kuramoto, Runeson, Stuart, Lichtenstein, & Wilcox, 2013; Roy, 1983; Tsuchiya, Agerbo, & Mortensen, 2005; Wilcox et al., 2010).

These results of this review reveal a mixed picture with regard to the grief experience and bereavement outcomes in adolescents. However, several pre- and postloss features, identified through the current review, may affect the process of adaptation after the loss.

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Preloss features

Psychological closeness

Studies refer to the quality of the family context (Ratnarajah & Schofield, 2008) and emotional closeness of a relationship as a factor that affects the bereavement process. Abbott and Zakriski (2014) found that the level of grief was highest in peers closest to suicides, and that closeness of relationship and level of grief were linked to a weaker belief in the preventability of the suicide. Closeness of relationship (Brent et al., 1992, 1993a, 1993b), visual exposure to suicide (Brent et al, 1993c, 1995), and (related postloss) feelings of accountability (Bridge et al., 2003; Melhem et al., 2007) were risk factors for new onset psychiatric problems. The mean duration of new onset depression after peer suicide was 9 months (Brent et al., 1994), and rates for new onset psychiatric problems became nonsignificant after 6 months in exposed compared with unexposed adolescents (Brent et al., 1996b). Closeness of relationship in the group of suicide peers was also associated with increased risk of suicidal communication and suicidal plans (Ho et al., 2000).

Contrary to these positive findings, studies did not find increased risks of attempted suicide or suicide among friends versus acquaintances exposed to a suicide (Brent et al., 1992, 1996b, 1994,; Feigelman & Gorman, 2008; Swanson & Colman, 2013; Watkins & Gutierrez, 2003), despite increased onset of psychopathology shortly after bereavement (Brent et al., 1993a, 1993b, 1994). This finding led Brent et al. (1996b) to suggest that exposure to suicide of a friend might serve as a protective factor against one's own suicidal behavior.

Mental health

Whereas personal history of depression and family history of psychopathology are related to new onset psychiatric problems after the loss (Brent et al., 1992, 1993b, 1993c, 1994; Cerel et al., 2000; Melhem et al., 2008), a longitudinal controlled follow-up of parentally bereaved adolescents found that preloss depression, PTSD at 9 months, and loss of mother predicted depression 2 years after the loss (Brent et al., 2009). At 3-year follow-up, Melhem et al. (2011) distinguished three grief trajectories, which emerged irrespective of cause of death: (a) a low grief group (58.8% of the total sample), (b) an initial high-grief group steadily declining over time (30.8% of sample), and (c) a high grief group that continued over time (10.4%). Prior personal history of depression and functional impairment were related to prolonged grief (Melhem et al., 2011).

Follow-up of the same study group at 5 years postloss revealed that bereavement and mental health may affect developmental outcomes (Brent et al., 2012). Parentally bereaved youth compared with nonbereaved controls had lower competence regarding work performance, career planning, peer attachment, and future educational aspirations, and higher levels of new onset of alcohol and substance abuse and dependence, the latter especially in adolescent boys (Hamdan et al., 2013). Predeath parental and child psychiatric disorder had a negative impact on parent and child functioning and was related to the developmental outcomes mentioned. Strikingly, neither age at time of the death, gender of deceased parent, nor cause of death affected the developmental outcomes (Brent et al., 2012).

Postloss features

Social support

With regard to adolescents bereaved by suicide, social support among peers seems to have beneficial effects on more helpful attitudes towards suicide (e.g., the belief that suicide is preventable), but it is also related to more negative or stigmatizing attitudes (e.g., the belief that suicide is normal or selfish; Abbot & Zakriski, 2014). Moreover, social support of friends might prolong grief through mechanisms of corumination defined as an extremely negative form of self-disclosure involving discussion focused on problems and emotions to the exclusion of other activities or discourse (Rose, 2002). Levels of corumination are found to predict the onset of depression, as well as its severity and duration (Stone, Hankin, Gibb, & Abela, 2011).

Quality of relationships

Longitudinal controlled follow-up of bereaved adolescents showed that a higher level of functioning of the remaining parent after the death, and self-esteem of the surviving adolescent were protective factors for bereaved adolescents (Melhem et al., 2008). Conversely, at 3-year follow-up, complicated grief in the remaining parent, feeling that others were accountable for the death, and life events subsequent to the death were related to new onset depression. The type of death was not significant (Melhem et al., 2011). Indeed, it has been noted that although children mostly impacted by the loss might have experienced the most preloss problems, children who have been separated from the suicidal parent might cope well with the loss (Cerel et al., 2000) without serious effects, and despite possible major changes in living circumstances. They appear to be helped by "the fact that ill parent died and the well one survived" (Shepherd & Barraclough, 1976; p. 272).

Dose-response effect

There is evidence of a cumulative or a dose-response effect due to an aggregation of pre- and postloss

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features. Jakobsen and Christiansen (2011) found that the death of both parents, compared with loss of one parent, doubled the risk of adolescent attempted suicide (relative risk [RR] = 4.66 vs 1.71). Also, the adolescent's attempted suicide risk seems to increase with the number of exposed risk factors. Mittendorfer-Rutz et al. (2008) found that 47% of the suicide attempts in the study group could be attributed to the cumulative effect of familial psychopathology, family suicide attempt, familial suicide, and one's own psychopathology. Similar findings were reported by Christiansen, Goldney, Beautrais, and Agerbo (2011); however, high paternal but not maternal income appeared to mitigate risk of attempted suicide after maternal death (Jakobsen & Christiansen, 2011). Income of father is an indicator of socioeconomic status, which correlates with levels of social support (Gecková, Van Dijk, Stewart, Groothoff, & Post, 2003; Mickelson & Kubzansky, 2003). This indicates that social support in families following a suicide would mitigate impact of suicide, whereas social support among friends could be a risk factor for increased corumination.

Discussion

This review of the research literature on the impact of suicide loss on adolescents revealed that neither type of death per se nor mental health or risk behavior determines the level of grief. Pre- and postloss features both appear to be related to the grief level, mental health, and behavioral outcomes.

The level of grief appears to be related to the emotional closeness of the relationship with the deceased person, and attitudes such as a belief in the preventability of suicide (Abbott & Zakriski, 2014). Social support among friends, after the loss, appears to have mixed effects on attitudes toward suicide (more hopeful or more stigmatizing attitudes). Social support was also found to prolong grief through mechanisms of corumination (Rose, 2002; Stone et al., 2011). Furthermore, preloss family functioning and quality of relationship with (remaining) parent affect the impact of the loss (Dyregrov & Dyregrov, 2005; Ratnarajah & Schofield, 2008).

Mental health outcomes also appear to be affected by pre- and postloss features. Preloss features include family and personal history of psychiatric problems, closeness of relationship, and having known about the suicide plan (Brent et al., 1992, 1993a, 1993b, 1993c, 1994, 1995; Cerel et al., 2000; Melhem et al., 2008). Postloss features include the feelings of accountability and that the individual could have done something to prevent the death (i.e., guilt; Bridge et al., 2003; Melhem et al., 2007). Also, there tend to be more disruptions in suicidal families before the loss. As such, adolescents in these families might have had less contact with the suicidal family member (usually a parent), which might serve as a protective factor after the loss (Cerel et al., 2000; Shepherd & Barraclough, 1976).

Comparing mental health features among adolescents bereaved by parental suicide, other types of parental death, and nonbereaved adolescents, no differences were found related to type of death. However, once more, preloss features such as history of psychiatric problems, feelings that others are accountable for the death, and postloss features such as quality of remaining parental relationship, and life events, affected the long-term mental health and developmental outcome (Brent et al., 2009, 2012; Melhem et al., 2007, 2011, 2008).

Similar to mixed findings regarding at-risk health behavior among bereaved friends, study findings are inconclusive regarding suicidal behavior among bereaved or exposed friends, contrary to robust findings of increased risk of suicide and suicidal behavior among adolescents after a suicide in the family, independent of the familial transmission of psychiatric problems. Among bereaved peers, the closeness of relationship with the deceased appears to be associated with suicidal behavior (Ho et al., 2000), whereas increased new-onset psychopathology shortly after the loss was not associated with increased suicidal behavior (Brent et al., 1996b, 1993a, 1994). Regarding parental suicide there appears to be a gender-decedent effect on adolescent suicide (Cheng et al., 2014) and attempted suicide (Kuramoto et al., 2010) but further research is necessary to explore this issue and to generate possible explanations.

Several studies found that risk of suicidal behavior was increased when familial suicide was experienced at younger age (Agerbo et al., 2002; Kuramoto et al., 2013; Niederkrotenthaler et al., 2012; Roy, 1983; Wilcox et al., 2010). Though studies have not comprehensively explained this age effect, from a developmental perspective it is known that increasing age in childhood and adolescence is associated with increasing cognitive capacities, and increasing separation and independence from parents, which may explain an increased vulnerability in younger children, in addition to biochemical and hormonal vulnerabilities in young children (Dietz et al., 2013; Luecken, 2008; Oltjenbruns, 2001).

Death is a common experience in the lives of young people. The majority of adolescents have experienced the death of a first- or second-degree relative or a close friend (Ringler & Hayden, 2000); 77.6% of adolescents in the study by Harrison and Harrington (2001) had experienced a loss through death, with 66% having lost a grandparent. Indeed, the death of a grandparent is

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often the first death experience of an adolescent, e.g., reported by half (49%) of adolescents (Glass, 1990). Given the high suicide rates among the elderly, especially elderly males in Western countries, the lack of studies on bereavement after grandparent suicide is surprising.

Nonetheless, given the impact of loss by suicide on the lives of young people, research efforts should also focus on social and professional bereavement support, a research field still much in need of development. Though this review did not focus on studies of support programs, other reviews have revealed a need to identify ingredients that render such support effective (Dyregrov, 2009; Jordan & McMenamy, 2004; McDaid, Trowman, Golder, Hawton, & Sowden, 2008; Rosner, Kruse, & Hagl, 2010; Schut, Stroebe, van den Bout, & Terheggen, 2001).

Limitations

The review was limited to peer-reviewed studies, identified through a systematic search of the literature. Though comprehensive, it is not possible to exclude the possibility that the search overlooked some studies germane to the review. The review did not consider studies regarding exposure to suicide via the media, as this would not entail a personal relationship between the suicidal person and the bereaved adolescent. In addition, the review included studies with suicide, and not attempted suicide, as the exposure factor, because the review focused on bereavement after suicide. The majority of studies were undertaken in the United States, and only few studies have been done in non-Western countries. As such, it is not known whether findings are generalizable to other cultures. In addition, varying gender distributions and research methods might hinder comparison of results of different studies.

Future studies, especially studies involving different types of death and nonbereaved controls, and longitudinal studies might further improve our understanding of impact of suicide, grief trajectories and long-term effects regarding mental health, at-risk behaviors and suicidal behavior among affected adolescents. Future studies should also broaden the perspective, by focusing not only on risk factors for adverse outcomes or maladaptive coping, but also on protective factors to better understand adaption processes after a significant loss through death. For example, little is known regarding attitudes towards life, death, and suicide, and resilience and help-seeking among adolescents bereaved through suicide.

Conclusions

The suicide of a friend or a family member might have a profound, debilitating and potentially long-lasting impact on adolescents. However, across kinship relationships with the deceased, aspects of the impact (grief experience, mental health, at-risk behaviors and suicidal behavior) may be expressed differently over time. The experience of suicide bereavement in adolescents might feature certain reactions/components (e.g., feelings of rejection, shame, stigma, blaming, guilt, suicidal ideation, anger, and search for explanation) more prominently than in other bereavement; it is, however, not clear how unique these reactions are.

This review has demonstrated that suicide should not be considered as an isolated event, and that its impact should be placed within a broader context. The review revealed that the impact of suicide and the bereavement outcome among adolescents might be affected by (a) preloss features related to personal and family history of mental health, family life and stressors, suicidal behavior, type of kinship relationship and especially emotional closeness of relationship; and (b) postloss issues such as quality of remaining relationships. Future research and clinical work with bereaved adolescents should consider this broad context.

It appears that closeness of relationship prior to the death, rather than type of relationship is related to impact of the loss. Closeness and quality of remaining relationships (after the loss) buffer the impact of the loss, whereas social support among friends might have negative effects as well.

The overall picture that emerges is that pre- and postloss features are more important regarding the impact of bereavement than the type of death per se. This observation does not intend to minimize the grief, or the pain of the loss that is suffered by the bereaved through suicide. On the contrary, this observation would acknowledge the loss and simultaneously install a perspective of hope. The point of view that suicide bereavement does not have to be more severe than other bereavement, and that adolescents bereaved through suicide are not predisposed to pathological outcomes, might help to destigmatize suicide bereavement.

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